



Budget Scanners

The right scanner gives you the perfect way to digitise all kinds of text and images. Here we look at 10 of the best – they're stylish, easy to use, and none of them will break the bank

IN THIS REVIEW

Canon CanoScan 4200F
Canon LiDE 60
Epson Perfection 2580 Photo
HP ScanJet 2400
HP ScanJet 4670vp
Microtek Scanmaker S400
Mustek Be@rPaw 6400TA Pro
Mustek ScanExpress 1248UB
Plustek OpticPro ST64
Visioneer OneTouch 9000 USB

Despite predictions that paper would go the way of vinyl records and VHS tapes, there still seems to be plenty of it around. Music, movies and photography are all going digital – but electronic distribution has made only limited advances with the written word.

If you want to get printed material on to your computer, you need a scanner. Scanners aren't just useful for capturing text, though. Working at higher resolutions, they can digitise graphics, photograph or anything else you hold against their glass scanning bed. Backlights that

allow you to scan photo negatives, once the preserve of expensive professional devices, are now common on budget scanners.

COPY THAT

The quality of a scanner cannot be simply judged by its specification or price. This month we've reviewed 10 scanners with prices ranging from £28 to £143 including VAT. Our tests show which are the easiest to use, which are the fastest and which produce the best results. We'll help you find the right scanner for your needs.



CHOOSING A... BUDGET SCANNER

Scanners can make light work of organising and archiving documents as well as photographs, but how powerful do you want yours to be? Read on to find the right model for your needs

These days you can buy a scanner that will create high-quality images of both documents and photographs for well under £200. You may need to pay more if you have very advanced projects in mind, but this test shows that you don't need to spend a fortune to get a highly capable scanner.

This is not to say that all these scanners are the same. Before you buy you should consider what type of documents you'll need to scan the most. Our reviews will then help you pick a scanner that's ideal for those tasks.

FILM STARS

In a flatbed scanner, the original document is placed face-down on a glass scanning bed called a platen. Underneath this is a moving head with a light that illuminates the subject, and a set of charge-coupled devices (CCDs). These tiny diodes detect the amount of light that's reflected back from the document as the head moves over it. This information is transmitted to the host computer, where the scanner's driver assembles it into an image.

This works for a reflective original such as a printed photograph, but transparent materials such as film negatives or slides aren't designed to form an accurate image by reflecting light. Entry-level scanners can't capture them, but spending a little more buys a device with a transparent materials adaptor (TMA). This rather grand-sounding term usually refers to a second light in the scanner's lid, which shines through the film towards the scan head so it can detect the image.

VIVE LA RESOLUTION

A scanner's optical resolution specifies the maximum level of detail it can capture. The least expensive device in our group test this month has a resolution of 600 dots per inch (dpi), which means it can produce an image 600 pixels square from a one inch-square original. This is more than enough

for most purposes, but it won't capture the finest details in a photograph, for example.

The most expensive scanner on test scans at up to 4,800dpi, so it can produce images with 64 times as much detail. A high resolution of 2,400dpi or more is essential if you want to scan film, as you need great detail to produce usable images from 35mm negatives that measure only 1x1.3".

Manufacturers often state a second, much higher figure for interpolated resolution. This is the maximum resolution image that the driver can create on your screen, but this interpolation only blows up the image captured by the scanner. It doesn't add any further detail, so it's best disregarded. If you need to expand an image, you can do so using an image editor instead.

DETAILED ANALYSIS

It isn't just resolution that determines the quality of a scanner's output. As with a digital camera, there's no point in having a high resolution if poor optics can't focus the image sharply. Some scanners struggle to differentiate between very dark shades, while others may not detect subtle detail in very bright areas.

You can't tell the strengths and weaknesses of a particular model without actually trying some scans, so you will need to read our reviews to see what our tests highlighted.

QUICK SCANNED

Most scan jobs are fairly quick, but several factors can slow them down. Some scanners are quicker than others, and the lamps in some take time to heat up after periods of inactivity. Our table on page 177, which compares the time taken for each scanner to complete a set of typical jobs, doesn't include this time.

A single negative scanned at 2,400dpi in 48-bit colour creates around 40MB of data. Editing such large images eats up system memory, and saving them uncompressed will quickly fill disk space. A slow USB1.1 connection may act as a bottleneck between the scanner and the PC, so if you really need to scan at high resolutions, look for a scanner with a USB Hi-speed connection, and make sure your PC is up to the job.

IN THE BOX

Scanners are usually easy to install. Most connect to a PC or Mac over a simple USB connection, and every product in this group ships with a suitable cable. Most need mains electricity, but two of the devices here get all the power they need from their USB connection.



▲ HP's vertical 4670vp looks great, and its design makes loading documents quick and easy

The amount and quality of bundled software varies between devices. Every product in our group comes with an optical character recognition (OCR) application, which recognises text in scanned pages and saves it in an editable form such as a Word document. All come with some form of image-editing software, most of which is quite basic, but three models include Adobe's excellent Photoshop Elements.

All these scanners use a TWAIN driver, which allows you to import a scanned image directly into compatible programs such as an image-editing package, or even some office applications such as Word. Our reviews will explain which interfaces are easy to use and which offer the most complete control over your images.



Many scanners here capture film, but Epson's motorised loader makes it easier than most



Paying more doesn't guarantee good quality. This terrible 4,800dpi image was created by the most expensive scanner in the group



REVIEW SCANNER

MUSTEK
ScanExpress 1248UB

RATING ★★☆☆

PRICE £28 inc VAT

SUPPLIER www.dabs.comDETAILS www.mustek.de

The ScanExpress is the least expensive scanner in this test, and it has the most basic specification. It's the only scanner here with an optical resolution below 1,200dpi, and it has no function buttons for one-touch scanning. The lid's hinge design doesn't allow it to close flat on thick originals, and the scanner's captive USB cable emerges from a case made from unappealing beige plastic.

However, it has some plus points. It's easy to install, requiring no external power supply, and comes with OCR and basic photo-editing software. The TWAIN scan interface is user-friendly, though not particularly appealing to look at. Mustek also provides drivers for several versions of Mac OS.

It was quite slow in our tests, taking over 33 seconds for a simple preview and 55 seconds for an A4 scan at 150dpi. Although these times are acceptable for such a keenly priced product, the scan head took over 20 seconds to return to its resting position ready for the next job.

Its image quality is suitable only for very basic needs. Inconsistent brightness in solid areas of colour gave them a cross-hatched appearance, and the scanner struggled to capture any detail in the lightest shades. The smooth shade progression in the blue sky of our test photo also caught it out.

This isn't a great scanner, but its very low price and reasonable software make it acceptable value. We'd recommend spending another £8 on the HP ScanJet 2400, though.

✓ Very affordable

✗ Very basic

SPECIFICATIONS 600x1,200dpi optical resolution, 48-bit colour, USB

REVIEW SCANNER

CANON
LiDE 60

EXCLUSIVE

RATING ★★☆☆

PRICE £58 inc VAT

SUPPLIER <http://uk.insight.com>DETAILS www.canon.co.uk

Canon's LiDE scanners are thinner and lighter than its CanoScan products. At 1.8kg, the LiDE 60 is the lightest scanner here. Like the Mustek ScanExpress 1248UB, it takes its power over USB so it doesn't need a power adaptor.

Like HP's ScanJet 4670vp, the LiDE can operate vertically on a supplied stand. This looks good and could be useful where desk space is at a premium, but the Canon topples over if you open its conventionally hinged lid too wide. There's no significant lip on which to rest documents, so the whole arrangement isn't very practical.

Four function buttons provide one-touch copying or scans to various configurable applications. Using them takes two hands, though, or the lightweight scanner will slide backwards across the desk when you press.

Canon's TWAIN interface is one of the best here, providing a simple set of options for the novice or an Advanced Mode for those needing full control. The LiDE is the most affordable scanner in this test to offer dust blemish removal, though it can't scan transparencies where this would be most useful.

This scanner was quite quick overall, and its scan quality was fairly good. Colours were accurate, though bold hues lost some of their intensity when using the driver's Auto Tone function. However, it seems a little expensive when compared to more conventional competitors.

✓ Slim, light and simple; good interface

✗ A little expensive; impractical when vertical

SPECIFICATIONS 1,200x2,400dpi optical resolution, 48-bit colour, USB Hi-Speed. Part code 0337B003AA

REVIEW SCANNER

HP
ScanJet 2400

RATING ★★★★★

PRICE £36 inc VAT

SUPPLIER www.savastore.comDETAILS www.hp.co.uk

HP's ScanJet 2400 is a little more expensive than the Mustek ScanExpress 1248UB, but it has a higher optical resolution of 1,200dpi. The two function buttons on its front panel can be used to trigger scans or to produce quick copies from a connected printer. It is simple enough to set up, with no scan head lock to worry about, but its install program is a little inflexible. It offers Typical, Minimal and Custom options, but you'll need at least 150MB of disk space for HP's mandatory Photo and Imaging software.

Our first impression of the 2400's scan performance was that it was quite quick, with a full A4 preview taking only eight seconds. However, its scan times fell increasingly behind the competition as we increased the resolution. This culminated in a slow 1,200dpi scan, where the USB interface really struggled. The 2400 produced some decent-quality scans. It captured images at 600 and 1,200dpi with sharp detail and generally accurate colours. Details in light and dark areas were well preserved, though some deeper colours appeared washed out. This effect was far more noticeable on low-resolution document scans, where text appeared to be charcoal grey rather than black.

The driver's Lighten/darken option provides sliders for correcting this, and a little tweaking produced much better results. We were left frustrated that HP's clunky interface wouldn't automatically remember our settings between TWAIN sessions, but this is a good scanner for the price.

✓ Affordable; decent-quality scans

✗ Basic; slow

SPECIFICATIONS 1,200x1,200dpi optical resolution, 48-bit colour, USB. Part code Q3841A

REVIEW SCANNER

VISIONEER
OneTouch 9000 USB

RATING ★★☆☆

PRICE £67 inc VAT

SUPPLIER www.redstore.comDETAILS www.visioneer-europe.com

The Visioneer 9000 is the only scanner here to be hinged lengthways, giving it a landscape orientation. This is unusual, but there's no reason why a scanner shouldn't be arranged this way. Though wider than the norm, the 9000's lid requires less clearance, which could be useful in a cramped working area.

This is the least expensive product in the group to come with Photoshop Elements. A cut-down version of Adobe's professional software, it's a decent image-editing package that's likely to fulfil most users' demands.

At low resolutions the Visioneer was reasonably swift, but its fast-moving scan head was particularly noisy. This was at its worst as the head returned to its resting position. That aside, the Visioneer seems solidly made, but we had to close the lid with care to avoid moving the document to be scanned.

Scan quality was variable. Images didn't always seem sharply focused, but we were impressed with their fine detail. Our Q60 test pattern showed that the scanner didn't capture subtle contrast between different light or dark shades, however, and colours tended to become oversaturated.

The TWAIN interface seemed intimidating at first, but it proved quite simple to use. It offers a reasonable amount of advanced control, but lacks any auto-tone or exposure functions. The 9000 is competent enough, but it doesn't really stand out.

✓ Great software bundle

✗ Noisy when in use; mixed scan quality; no Mac driver

SPECIFICATIONS 1,200x2,400dpi optical resolution, 48-bit colour, USB Hi-Speed. Part code 90-7096-200



REVIEW SCANNER

MUSTEK
Be@rPaw 6400TA Pro

RATING ★★★★★

PRICE £73 inc VAT

SUPPLIER www.redstore.comDETAILS www.mustek.de

Mustek's Be@rPaw 6400TA Pro has a lower street price than the £120 RRP quoted when we reviewed it in *Shopper* March 2005. It's the least expensive of the group that can scan film; only Microtek's S400 has a higher resolution.

The 6400 seems well made, but we weren't happy with the lid design. It houses a backlight for film scanning and seems solid, but wouldn't stay open while we placed documents on the platen. During reflective scans, the backlight is covered by a flexible insert. This was easy to remove but difficult to replace.

Fitting film strips into the flimsy holders requires nimble fingers, and negatives weren't held totally straight. The backlight is big enough to illuminate transparencies up to 6x4", but no suitable holder is provided. The images we captured from film were quite soft and suffered from a light-brown colour cast.

The 6400's high-resolution reflective scans were better. They were competitively quick, but previews and 150dpi scans were surprisingly slow. Some areas of white paper in our document scan took on a blue tinge, suggesting that the lid's document mat wasn't holding them completely flat.

Despite a bargain price and a high specification, we weren't overly impressed with the Be@rPaw. It may seem good value, but the Epson Perfection 2580 Photo and Canon's 4200F are better.

✓ High resolution and film scanning for a low price

✗ Soft transparency scans; poor film holders; annoying lid; no Mac driver

SPECIFICATIONS 3,200x6,400dpi optical resolution, 48-bit colour, USB Hi-Speed

REVIEW SCANNER

EPSON
Perfection 2580 Photo

RATING ★★★★★

PRICE £84 inc VAT

SUPPLIER www.redstore.comDETAILS www.epson.co.uk

Epson's 2580 Photo is essentially the same as the cheaper 2480 model, but its lid includes an unusual motorised film feeder. This automatically loads strips of negatives into the scanner where they can be previewed and captured. It helps to simplify film scans, but you still need to remove the backlight cover.

The 2580 is an attractive scanner and feels particularly well engineered. Its lid is sturdy and has a damped hatch to keep dust out of the film feeder. Epson's driver is also very good, with Automatic and Home modes for the novice, and a functional Professional mode for those who want more control.

This was marginally the quickest scanner here, especially at higher resolutions. It was particularly at home with film, previewing a strip of six negatives in just 31 seconds, and capturing one frame at 2,400dpi in 49 seconds. The driver automatically recognises individual frames and it coped well with dark images, unlike some Epson scanners. Its dust and scratch removal options work well, but work best with a can of compressed air.

Despite its modest optical resolution, the 2580's crisp and detailed film scans were the best here. Curiously, this wasn't the case with its reflective scans which, though very good, were softer than those from Canon's 4200F. Both are great scanners, but the Epson is better for film.

✓ Excellent film scans; quality feel; good driver interface

✗ Slight softness to reflective scans

SPECIFICATIONS 2,400x4,800dpi optical resolution, 48-bit colour, USB Hi-Speed. Part code B11B172122

MANUFACTURER	MUSTEK	HP	CANON	VISIONEER	MUSTEK	EPSON	CANON	PLUSTEK	HP	MICROTEK
Model	ScanExpress 1248UB	Scanjet 2400	LiDE 60	OneTouch 9000	Be@rPaw 6400TA Pro	Perfection 2580 Photo	CanoScan 4200F	OpticPro ST64	Scanjet 4670vp	Scanmaker S400
Rating	★★	★★★★	★★★★	★★★★	★★★★	★★★★★	★★★★★	★★	★★★★	★
TESTED SCAN SPEEDS										
Full scan area preview	33.5s	8s	10.5s	9s	20.5s	7.5s	3.5s	7.5s	5s	28s
A4 document (150dpi)	55s	30.5s	13.5s	15.5s	27.5s	9.5s	9s	21s	11s	59s
A4 document (300dpi)	1m 17s	40s	25s	34s	44s	14.5s	14.5s	40.5s	19.5s	59s
6x4" print (600dpi)	58s	1m 07s	17.5s	48s	39s	13s	11s	23.5s	25s	1m 00s
6x4" print (1,200dpi)	2m 03s	3m 58s	1m 03s	2m 39s	1m 18s	32s	40.5s	1m 03s	3m 33s	3m 00s
35mm negative (2,400dpi)	N/A	N/A	N/A	N/A	1m 47s	49s	57s	1m 39s	3m 41s	4m 01s
35mm negative (max dpi)	N/A	N/A	N/A	N/A	2m 58s (3,200dpi)	49s	1m 15s (3,200dpi)	2m 14s (3,200dpi)	3m 41s	4m 02s (4,800dpi)
SPECIFICATIONS										
Optical resolution	600x1,200dpi	1,200x1,200dpi	1,200x2,400dpi	1,200x4,800dpi	3,200x6,400dpi	2,400x4,800dpi	3,200x6,400dpi	3,200x6,400dpi	2,400x2,400dpi	4,800x9,600dpi
Colour depth	48-bit	48-bit	48-bit	48-bit	48-bit	48-bit	48-bit	48-bit	48-bit	48-bit
Greyscale depth	16 bit	8 bit	16 bit	16 bit	16 bit	16 bit	16-bit	16-bit	8-bit	16-bit
Maximum document size	216x297mm	216x297mm	216x297mm	216x297mm	216x297mm	216x297mm	216x297mm	216x297mm	216x297mm	216x297mm
Max transparency size	N/A	N/A	N/A	N/A	100x160mm	29mm wide	130x180mm	35x24mm	24mm wide	24mm wide
Film formats accepted	N/A	N/A	N/A	N/A	35mm, slide	35mm, slide	35mm, slide	35mm, slide, 120/220 film	35mm, slide	35mm, slide
Function buttons	None	2	4	5	5	4	4	5	4	7
Scan head lock	None	None	Manual	Manual	None	Manual	Manual	Automatic	None	Manual
Other features	Power from USB connection		Vertical stand, power from USB		Integrated TMA	Motorised film feed; Integrated TMA	Integrated TMA	Integrated TMA	Vertical stand; Discrete TMA	Discrete TMA
Software	Ulead Photo Express, ABBYY Fine Reader Sprint OCR	HP Photo & Imaging software with HP Memories Disc Creator, OCR software	ArcSoft PhotoStudio, ArcSoft OmniPage SE OCR	Adobe Photoshop Elements, Visioneer Scan Manager Pro, ScanSoft PaperPort Deluxe 7	Ulead Photo Express, ABBYY FineReader Sprint OCR	ArcSoft PhotoImpression, ABBYY FineReader Sprint OCR, Presto! BizCard	ArcSoft PhotoStudio, ArcSoft OmniPage SE OCR	NewSoft Presto! PageManager, Mr Photo and Image Folio, ABBYY FineReader Sprint OCR	HP Image Zone, I.R.I.S. Reader Pro OCR, ArcSoft Panorama Maker, Adobe Photoshop Elements	Adobe Photoshop Elements, ABBYY FineReader Sprint OCR, Ulead Photo Explorer
Supported operating systems	Windows 98 SE/Me/2000/XP, Mac OS 8.6/9.0/9.1/X (Classic mode)	Windows 98/Me/2000/XP, Mac OS 9.1 or OS X 10.1.5	Windows 98/Me/2000/XP, Mac OS X 10.2	Windows 98/Me/2000/XP	Windows 98 SE/Me/2000/XP	Windows 98 SE/Me/2000/XP, Mac OS 9.1, OS X 10.2	Windows 98/Me/2000/XP	Windows 98/Me/2000/XP	Windows 98/Me/2000/XP, Mac OS 9.1, OS X 10.1.5, 10.2 or 10.3	Windows 98 SE/Me/2000/XP, Mac OS 9.x, OS X 10.2-10.3
Interface	USB	USB	USB Hi-Speed	USB Hi-Speed	USB Hi-Speed	USB Hi-Speed	USB Hi-Speed	USB Hi-Speed	USB Hi-Speed	USB Hi-Speed
USB cable supplied	Yes (captive)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes (proprietary)	Yes
Dimensions (HxWxD)	62x270x416mm	62x458x275mm	40x259x375mm	68x435x306mm	80x261x436mm	86x275x419mm	81x259x473mm	77x265x442mm	19x298x413mm	82x297x483mm
Weight	2.85kg	2.2kg	1.8kg	2.4kg	2.4kg	3.2kg	2.8kg	2.8kg	2.7kg	3.7kg
BUYING INFORMATION										
Price including VAT	£28	£36	£58	£67	£73	£84	£86	£100	£128	£143
Warranty	One year RTB	One year RTB	One year RTB	One year RTB	One year RTB	One year RTB	One year RTB	Two years RTB	One year RTB	One year RTB
Supplier	www.dabs.com	www.savastore.com	http://uk.insight.com	www.redstore.com	www.redstore.com	www.redstore.com	www.dabs.com	www.datamind.co.uk	HP 08700 104320	www.3dsolutions.co.uk
Contact	www.mustek.de	www.hp.co.uk	www.canon.co.uk	www.visioneer-europe.com	www.mustek.de	www.epson.co.uk	www.canon.co.uk	www.plustek.com	www.hp.co.uk	www.microtek.nl
Part code	N/A	Q3841A	0337B003AA	90-7096-200	N/A	B11B172122	9996A003AA	958-61-A	L1935A	1108-03-750001



REVIEW SCANNER

CANON
CanoScan 4200F

RATING ★★★★★

PRICE £86 inc VAT

SUPPLIER www.dabs.comDETAILS www.canon.co.uk

Though it's almost the same price as the Epson 2580 Photo, Canon's F4200 has a higher optical resolution. It scans film using an integrated backlight, but Canon's removable cover seems flimsy compared to some of the others here.

The 4200F is easy to install and shares the LiDE 60's likeable TWAIN interface. Its dust removal option is welcome on a scanner that captures film at high resolutions. Without it, tiny dust and fibre particles are magnified.

This scanner produced incredibly fast reflective previews, and scanned documents and film quickly at all the resolutions we tested. We noticed a very slight brown colour cast when using the Auto Tone feature, but otherwise the reflective scans were the best here, with sharp focus and plenty of subtle detail.

Negative strips load securely into a holder that clips into the scanner's lid. Its film scans were very good, but we preferred the results from the Epson.

This is a well-priced, high-quality scanner that's easy to set up and use. We prefer the Epson, but the Canon scanner is fine if you won't often scan film.

✓ Very good reflective scans; good driver interface

✗ Film scans could be sharper; no Mac driver

SPECIFICATIONS 3,200x6,400dpi optical resolution, 48-bit colour, USB Hi-Speed. **Part code** 9996A003AA

REVIEW SCANNER

PLUSTEK
OpticPro ST64

RATING ★★

PRICE £100 inc VAT

SUPPLIER www.datamind.co.ukDETAILS www.plustek.com

The OpticPro ST64 is one of three devices here that scans at 3,200x6,400dpi, but it's £27 more expensive than the Mustek Be@rPaw and £14 more than Canon's 4200F. Its specification and bundled software aren't much to shout about at this price, so we hoped it would perform particularly well.

The Plustek is the only scanner in the group with an automatic scan head lock, which disengages when the scanner is placed on a solid, level surface and re-engages when it's moved. It's easy to install, and while it's not the fastest scanner it's no slouch. Its 5x7" backlight is the largest here, and it lets you capture even large-format negatives. Unfortunately, it's unlikely that you'd want to. The Plustek's reflective scans had soft outlines and suffered from weak colours. The driver has no auto-tone function, so livening up images is tricky, and negative scans exhibited equally poor focus and were terribly dingy.

Sometimes it's worth spending a little more to get better specifications, software or performance. The OpticPro shows that this isn't always the case.

✓ Large negative scan area

✗ Overpriced; poor scan quality; no Mac driver

SPECIFICATIONS 3,200x6,400dpi optical resolution, 48-bit colour, USB Hi-Speed. **Part code** 958-61-A

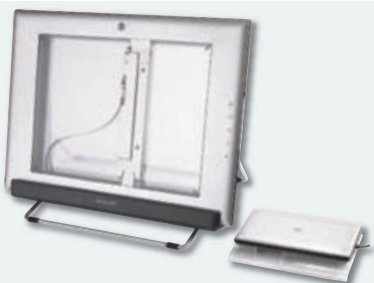
REVIEW SCANNER

HP
ScanJet 4670vp

RATING ★★★

PRICE £128 inc VAT

SUPPLIER HP 08700 104320

DETAILS www.hp.co.uk

HP's distinctive 4670vp is easily the best-looking scanner in this group. It looks like a large picture frame with a plexiglass centre. It has no conventional lid, but comes with a clear document holder and an upright stand. The scanner pivots forward in this stand, allowing you to insert documents. The 4670vp is also more practical because originals can simply be dropped in when it's open. The design makes sure they're aligned correctly, but it's easy to check through the clear cover. A utility to stitch multiple scans together is also included.

Unfortunately, these stunning looks conceal an average scanner. It's fairly quick at lower resolutions, but it became frustratingly slow above 600dpi in our tests. Our high-resolution Q60 pattern scan doesn't represent a typical home scanning job, but the HP took over two hours to capture it at 2,400dpi.

The HP has great looks and its unusual configuration gives it some unique talents. It's expensive, though, and no better than some cheaper products.

✓ Gorgeous looks; easy document loading; great software bundle

✗ Expensive; very slow at high resolution; not great for film

SPECIFICATIONS 2,400x2,400dpi optical resolution, 48-bit colour, USB Hi-Speed. **Part code** L1935A

REVIEW SCANNER

MICROTEK
Scanmaker S400

RATING ★

PRICE £143 inc VAT

SUPPLIER www.3dsolutions.co.ukDETAILS www.microtek.nl

The Scanmaker S400 has the highest optical resolution in this group, and should in theory be able to capture more than twice the detail of the 3,200x6,400dpi scanners. It's also the largest scanner on test.

The first thing we noticed was that the S400 takes ages to warm up. After switching it on, various lights flashed on and off for nearly a minute and a half before it was ready to do anything. Even at low resolutions, the S400 was one of the slowest scanners here. At 28 seconds, its previews were particularly slow.

We expected the scans to be great, but they were very disappointing. White paper in our document scans took on a greenish cast, and focus was poor. High-resolution scans appeared to suffer from blocky digital artefacts, and we even saw strange rainbow halos around areas with sharp contrast.

This scanner comes with a decent software bundle, but it isn't cheap. It's easily beaten by other products that cost almost half the price.

✓ High resolution; decent software

✗ Unimpressive scans; very slow; quite expensive

SPECIFICATIONS 4,800x9,600dpi optical resolution, 48-bit colour, USB Hi-Speed. **Part code** 1108-03-750001

LABS VERDICT BUDGET SCANNERS

If you're on a tight budget and only need a basic scanner, HP's ScanJet 2400 fits the bill. It produces good results and comes with some useful software. It won't satisfy advanced users, but it's our Best Budget Buy.

If you can spend more, Canon's CanoScan 4200F is a fine choice. It offers crisp, fast reflective scans and has

a high optical resolution without costing the earth. It's just beaten to an award by Epson's Perfection 2580 Photo, however. It can't capture at the same resolution as the Canon, but it nearly matched its performance with reflective documents. Its nifty film feeder and crisp, detailed film scans make it our Best Buy. **CS**

EPSON
Perfection
2580 PhotoHP
ScanJet 2400